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July 1, 1994

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Mr. William F. Caton, Secretary
Federal Communications Commission
1919 M Street, NW
Room 222
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

RE: RM-7913

Dear Mr. Caton:

COMSAT Corporation, through its COMSAT World Systems line of business, hereby submits an original and five (5) copies of its "Petition for Partial Relief from the Current Regulatory Treatment of COMSAT World Systems' Switched Voice, Private Line, and Video and Audio Services" ("Petition for Partial Relief"). Accompanying this Petition for Partial Relief, and bound in separate volumes, are an original and five (5) copies of an Executive Summary, and a study by The Brattle Group entitled "Competition in the Market for Trans-Oceanic Facilities-Based Telecommunications Services," undertaken in conjunction with Dr. Hendrik S. Houthakker, Henry Lee Professor of Economics at Harvard University.

Please associate these filings with the above-captioned proceeding, as they are intended to update the record therein with current market information, and to modify the relief sought by COMSAT Corporation in its January, 1992 "Petition for Rulemaking to Modify the Regulatory Treatment of COMSAT World Systems' Multi-Year Fixed-Price Carrier-to-Carrier Contract-Based Switched-Voice Services." Specifically, this Petition for Partial Relief seeks immediate authority for COMSAT World Systems to file tariffs for all its Intelsat satellite services on a streamlined basis, with 14-days public notice, a presumption of lawfulness, and minimal cost support data.

If you have any questions regarding this submission, please contact the undersigned.

Respectfully submitted,

Howard Polsky
Howard D. Polsky

Enclosures

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In the Matter of

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From the Current Regulatory
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Systems' Switched Voice,
Private Line, and Video
and Audio Services

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RM-7913

PETITION FOR PARTIAL RELIEF

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and Audio Services)	

PETITION FOR PARTIAL RELIEF

On January 30, 1992, COMSAT Corporation, through its COMSAT World Systems line of business ("COMSAT"), filed a petition with the Federal Communications Commission ("FCC" or "Commission") seeking greater business flexibility to meet both growing competitive pressures and increased consumer demands.¹ Since then, much has happened in the international telecommunications market generally and to COMSAT specifically. Thus, the purpose of this Petition for Partial Relief ("Petition") is twofold.

First, this filing supplements the information before the Commission as to the rapidly increasing competition in the facilities-based international telecommunications market. To that end, the Petition includes one of the most extensive and detailed market analyses ever undertaken with respect to the provision of trans-oceanic telecommunications facilities. Second, the Petition seeks immediate regulatory relief to allow COMSAT to file its tariffs more in the manner of its competitors: on fourteen days' notice, with a presumption of lawfulness, and with minimal cost support.² COMSAT respectfully suggests that

¹ See Communications Satellite Corporation, Petition for Rulemaking to Modify the Regulatory Treatment of COMSAT World Systems' Multi-Year Fixed-Price Carrier-to-Carrier Contract-Based Switched-Voice Services, RM-7913.

² Indeed, as described below, COMSAT's international separate satellite system competitors do not even have to file tariffs with the Commission.

the competitive status of the international telecommunications market³ supports granting such streamlined tariff relief.

I INTRODUCTION AND SUMMARY OF PROPOSAL

Conditions in the international telecommunications marketplace have changed radically since the Commission last analyzed them almost a decade ago. The FCC at that time concluded that COMSAT's INTELSAT-based services should remain subject to the full panoply of traditional common carrier regulation.⁴ In doing so, however, the Commission based its decision upon a number of factors that it expressly acknowledged could vanish in the near future. Among other things, the FCC observed that: (1) fiber optic cables capable of transmitting digital data and television signals had not yet been deployed, (2) satellite-cable loading guidelines still artificially guaranteed COMSAT a substantial share of international message telephone service ("IMTS") traffic, and (3) separate satellite systems had not yet been launched.⁵ Today, the factors that supported the Commission's finding of dominance have all changed. In fact, the pace of change has been even greater than the FCC expected.

In order to determine the true extent of competition that has developed in the market for trans-oceanic transmission facilities, COMSAT engaged the services of independent economic consultants experienced in evaluating dynamic industry markets. The resulting study, undertaken by Hendrik S. Houthakker, Henry Lee Professor of Economics at Harvard University, in cooperation with The Brattle Group, of Cambridge, Massachusetts, has been submitted in conjunction with this Petition.⁶ Professor Houthakker is an expert

³ The term "market" as used herein comports with the Commission's use of that term in evaluating the need for telecommunications regulation rather than the technical manner employed in antitrust law analysis.

⁴ *International Competitive Carrier Policies*, 102 F.C.C. 2d 812 (1985) ("*International Competitive Carrier Order*").

⁵ *See id.* at 838-40 & nn. 63, 64.

⁶ *See* Hendrik S. Houthakker & The Brattle Group, *Competition in the Market for Trans-Oceanic Facilities-Based Telecommunications Services* (June 24, 1994) (the "Study"). Full *cur-*

with more than forty years of experience in the areas of economic theory, econometrics, and economic policy. In addition to his extensive teaching and publishing, Professor Houthakker has served with the Council of Economic Advisers for two Presidents, first as a staff member during the Johnson Administration and later as a member of the Council during the Nixon Administration. The Brattle Group provides economic, management, and environmental counsel in the United States and abroad. Its practice has included analyses of regulated industries such as telecommunications, airlines, railroad, and natural gas and electric utilities.

Following an extensive review of the trans-oceanic facilities marketplace, the Study concludes that "COMSAT faces substantial effective competition in all geographic and service market segments" worldwide from fiber-optic cables and separate satellite systems.⁷ Moreover, competitive forces come not only from existing facilities but also from

riculum vitae for the authors are found on pages 110-111 of the Study.

⁷ See *id.* at 3. Significantly, the economists' analytical methodology took a highly conservative approach to the international trans-oceanic facilities marketplace. It "disaggregated" COMSAT's service offerings and the geographic areas the company serves into small "market segments" in order to avoid obfuscation of any relevant data. Study at 20-21. As a result,

[t]he approach in this study is conservative in the sense that its assumptions are the least favorable for COMSAT If [COMSAT] cannot exercise market power in any of the market segments in which it competes, it certainly cannot exercise market power in any "larger," more aggregated market segments.

Id. at 21. For example, while the economists (and COMSAT) maintain that "the reasons for the prior distinction between switched voice and private line" services are not relevant to "wholesale" facilities providers such as COMSAT, for purposes of rigorous analysis they are evaluated separately. *Id.* at 29. Clearly, the data showing that COMSAT wields no market power in either switched-voice (also known as "international message telephone service" or "IMTS") or private line service reflect precisely the same conclusion when the services are considered as one.

Similarly, the Study disaggregates the "geographic market segments" for purposes of rigorous scrutiny. *Id.* at 32-36. The vast majority of both intermodal competition (as provided by fiber-optic cables) and intramodal competition (as provided by separate satellite systems) splits into three readily definable segments:

- (1) From the United States across the Atlantic Ocean to Europe, Africa, and the Middle and Near East (reaching as far as India);
- (2) From the United States across the Pacific Ocean to Asia, Australia, New Zealand and other Pacific Islands; and
- (3) Across the Caribbean Sea and Atlantic Ocean to the Caribbean Islands, Central America, and South America.

facilities now under construction, which already have won significant commitments from customers after intense competition between trans-oceanic facility providers. The rapid growth of demand for international transmission services is attracting new entrants to the field as well. In short, as the Study concludes, "while COMSAT possesses a legal monopoly on access to the INTELSAT system, that franchise no longer confers upon COMSAT any market power."⁸

Despite the pervasive competition that COMSAT faces, the company today is one of the most heavily regulated of all U.S. common carriers subject to the Commission's jurisdiction.⁹ Furthermore, since the advent and growth of separate satellite systems, COMSAT has labored under increasing competitive disadvantages, particularly in regard to video and audio services. While its rivals have had the freedom to tailor their services to customers' needs without even having to file tariffs, COMSAT is burdened with the duty to make tariff filings for each new offering with detailed cost support data, subject to the delays occasioned by a forty-five day notice requirement, the cost of addressing challenges made by competitors (albeit routinely denied), and the need to deal with customer frustrations in waiting months for this process to play out.

The consequence of this unintended regulatory asymmetry is that COMSAT is hampered in its ability to respond quickly in the marketplace, and consumers are deprived of the fullest possible range of service choices and prices. Moreover, as shown below, whatever need may once have existed for the current regulatory distinctions, that need has

However, so as not to obscure the extent of competition in areas of the globe without easy access to submarine cable facilities, the Study analyzes six geographic world segments by further disaggregating the three world regions based on the extent of intermodal competition. *Id.* at 34.

⁸ *Id.* at 3.

⁹ COMSAT is subject not only to the normal common carrier regulation but also to sweeping FCC rules affecting its corporate structure, its issuance of debt and equity, information flow among its affiliates, and its participation in INTELSAT. *See, e.g., Changes in the Corporate Structure and Operations of COMSAT*, 97 F.C.C. 2d 145 (1984); Letter from Jack D. Smith, Chief, Common Carrier Bureau, FCC, to Lawrence M. DeVore, Vice President and General Counsel, World Systems Division, COMSAT (Mar. 30, 1984); *Consolidated Capitalization Plan for 1983-1985 of the Communications Satellite Corp.*, 94 F.C.C. 2d 1149 (1983), *modified*, FCC 83-381 (Aug. 17, 1983).

been overcome by dramatic changes in the international telecommunications industry. The state of intense, global market competition that currently exists will ensure that the public interest is well served, and thus justifies the streamlined tariff relief for COMSAT sought herein.

II. U.S. GOVERNMENT POLICY PLAYED A CRITICAL ROLE IN CREATING AND DEVELOPING INTERNATIONAL SATELLITE COMMUNICATIONS

Five decades ago, a number of visionary writers began to publish stories about the potential for international telecommunications carried by artificial satellites circling the earth. In 1945, science-fiction writer Arthur C. Clarke published his now-famous article "Extraterrestrial Relays," which discussed the possible role of geostationary communications satellites carrying long-range radio and television signals.¹⁰

By the early 1960s, Clarke's vision inspired United States telecommunications policymakers to seek to promote better understanding among nations by linking the peoples of the world through satellite technology.¹¹ Many obstacles, however, stood in the way of accomplishing this goal. Among them were high initial start-up costs for creating a global network, the unproven nature of the technology, and the investment by existing U.S. international telecommunications carriers in alternative transmission systems (high-frequency radio and undersea copper cables) which would be affected by the development of the new competing technology.

¹⁰ Anthony Michael Tedeschi, *Live Via Satellite* 10-11 (1989).

¹¹ In enacting the Communications Satellite Act of 1962, 47 U.S.C. §§ 701-744 (1988) (the "Satellite Act"), Congress explicitly declared that an "improved global communications network" would "contribute to world peace and understanding." 47 U.S.C. § 701(a). Earlier, a United Nations resolution called for a system of "communications by means of satellite" which would be "available to the nations of the world . . . on a global and nondiscriminatory basis." United Nations General Assembly, 16th Sess., Supp. No. 17 at 6, U.N. Doc. A/5100 (1962). Establishment of such a system was also intended to prevent technologically superior nations from monopolizing international communications by satellite. See *Agreement Establishing Interim Arrangements for a Global Commercial Communications Satellite System*, Aug. 20, 1964, Preamble, 15 U.S.T. 1705, 1706 ("1964 Agreement"); *Agreement Relating to the International Telecommunications Satellite Organization*, Aug. 20, 1971, Preamble, 23 U.S.T. 3813, 3814-15 ("INTELSAT Agreement").

Urged on by President Kennedy, Congress enacted legislation in 1962 that created the Communications Satellite Corporation (now COMSAT Corporation) and charged it with the mission of establishing a global satellite network. Toward that end, Congress provided that COMSAT would be the United States participant (or "Signatory") in the prospective international organization that became the International Telecommunications Satellite Organization ("INTELSAT").¹²

A. The Early Years Required Extensive Regulation Of The Marketplace

The creation of COMSAT and INTELSAT required the Commission to establish a completely new regulatory scheme for international telecommunications — a symmetrical program promoting the development and use of INTELSAT's facilities while at the same time protecting the established cable-based carrier interests. From the beginning, Congress and the FCC had to confront the fact that the telecommunications firms expected to be COMSAT's customers had vested business interests in existing transmission media that were threatened by the introduction of satellite technology.¹³ Government policy tackled this dilemma by promoting carrier investment in COMSAT and requiring substantial usage of INTELSAT. In turn, the interests of COMSAT's ratepayer customers — both carriers and, ultimately, other authorized users — were protected from any adverse effects that might arise from the FCC's policies by subjecting COMSAT to extensive oversight of its activities, including the rates it charged.

¹² COMSAT initiated the development of the international satellite system, and in 1964 the United States and ten other nations established the organization that became INTELSAT. *1964 Agreement*, 15 U.S.T. 1705; *see also INTELSAT Agreement*, 23 U.S.T. 3813. COMSAT became the U.S. representative to, and largest owner in, INTELSAT and acted as its first operational manager.

¹³ At this time, American interests in undersea copper cables were "owned" principally by AT&T, but international record carriers, known as "IRCs," also had ownership rights. *See MacKay Radio and Telegraph Co., Inc.*, FCC 64-41 (1964). The first trans-oceanic cable link had been laid in the nineteenth century to provide telegraph service across the Atlantic. Technological problems stymied the provision of voice transmission by cable until 1956, when AT&T laid the first transatlantic cable for voice services ("TAT-1") in partnership with the British government.

1. To Balance Preexisting Investments In Other Media, Carriers Were Accorded Ownership Rights In COMSAT And Related Facilities

At the very start, the arrangements governing COMSAT's existence were intended to serve a critical developmental goal. Rather than establish COMSAT as a government agency, Congress decided that the entity should "provide for the widest possible participation by private enterprise," particularly the international carriers.¹⁴ Lawmakers reasoned that unless carriers had a financial stake in COMSAT's well-being, there would be no counter-incentive to the carriers' inclination to favor their own trans-oceanic facilities over the INTELSAT system.¹⁵

To effectuate this intent, COMSAT was established as a publicly held corporation with special ownership rights reserved for "authorized carriers," who were permitted to hold up to 50% of COMSAT's stock and to elect a certain number of COMSAT directors.¹⁶ COMSAT's ownership structure thus gave carriers a voice in satellite policy and an investment which at least partially balanced their other financial interests.

The Commission supplemented this Congressional action by permitting international carriers to hold similar ownership stakes in the U.S.-based earth stations used to access INTELSAT. The Commission designated COMSAT as manager of these earth stations through a consortium, known as the Earth Station Ownership Committee ("ESOC"), and allowed the carriers collectively up to a 50% ownership share in each earth station.¹⁷

¹⁴ 47 U.S.C. § 701(c). During debate over the legislation, Congress specifically rejected a proposal that would have created the Communications Satellite Authority, a government agency that would exclusively own the U.S. portion of the satellite system, earth stations, and tracking system. See *TRT Telecommunications Corp. v. FCC*, 876 F.2d 134, 143 (1989) (discussing legislative history of the Satellite Act).

¹⁵ Once the costs for undersea cables have been expended, they are, in essence, "sunk costs." The use of INTELSAT becomes simply an additional expense which decreases margins. Also, investments in cable facilities are allowed to be capitalized and placed in the carriers' rate bases, while satellite leases are not. This was of vital importance to carriers in an earlier era when they were subject to rate base, rate-of-return regulation.

¹⁶ See 47 U.S.C. §§ 733, 734.

¹⁷ *Ownership and Operation of Earth Stations*, 5 F.C.C. 2d 812 (1966); see also *Proposed Global Commercial Communications Satellite System*, 38 F.C.C. 1104, 1112 (1965), modified, 2

At that time, ESOC facilities represented the sole means of access to INTELSAT satellites.

2. To Overcome Natural Incentives Not To Use INTELSAT, The FCC Established "Loading Guidelines" Requiring Carriers To Make Substantial Use Of Satellite Capacity

The FCC recognized that the actions taken to promote carrier investment in COMSAT and the international earth stations were not enough to ensure the development of international satellite technology. In order to resolve this concern, the Commission established "circuit distribution" or "loading" guidelines that required carriers to add satellite and cable circuits in approximately equal proportions.¹⁸

3. Extensive Regulations Were Created So That Satellites Could Gain A Sustainable Market Position Without Injuring Existing International Carriers

In facilitating and promoting direct carrier use of satellite technology, the Commission wanted assurance that it would not inadvertently threaten the economic viability of the other international telecommunications carriers. It therefore adopted a series of measures to make certain that the interests of these carriers did not unnecessarily suffer as a result of FCC policies to remove all artificial inhibitions against satellite technology. In addition, the Commission sought to ensure that the benefits of satellite transmission reached all customers of international communications services.

(a) COMSAT Was Generally Barred From Competing Directly Against Its Common Carrier Customers

When Congress established COMSAT as the U.S. Signatory to INTELSAT, it was generally presumed that COMSAT's role was to be that of a wholesale supplier of

F.C.C. 2d 658 (1966), *further modified*, 5 F.C.C. 2d 812 (1966).

¹⁸ See, e.g., *Future Licensing of Facilities for Overseas Communications*, 30 F.C.C. 2d 571 (1971), *modified*, 62 F.C.C. 2d 451 (1976), *further modified*, 64 F.C.C. 2d 937 (1977), *further modified*, 67 F.C.C. 2d 358 (1977), *recon.*, 71 F.C.C. 2d 1090, *further recon.*, 71 F.C.C. 2d 1178 (1979).

INTELSAT capacity to "retail" international telecommunications carriers. In essence, COMSAT was to be a "carrier's carrier." Congress left to the FCC the task of determining the specifics. The Commission did so in a number of decisions which prevented COMSAT, except in very limited situations, from competing for "end user" business with the other international carriers.¹⁹ The FCC was "concerned that the satellite technology [would] ... be so much more efficient than cable technology that COMSAT's entry into the retail market would threaten the other international carriers' revenues and significant investment in cable facilities".²⁰

(b) The Public Benefits Of Satellite Service Were Spread To All Users Via "Composite Rates" For International Telecommunications Services

While the Commission sought to prevent COMSAT from disrupting the retail carriers' business positions, it also wanted to make sure that end users received the economic benefits of satellite technology. Therefore, the FCC directed carriers to review their tariffs and ensure that trans-oceanic rates properly reflected these comparative cost savings.²¹

The international carriers responded by filing new rates that "composited" (i.e., averaged) the costs of both technologies. The Commission later formalized this approach as an appropriate means of passing along the cost benefits of satellite technology to many users.²²

¹⁹ See *Authorized Entities and Users*, 4 F.C.C. 2d 421, 428 (1966) ("Authorized Users I"), *recon.*, 6 F.C.C. 2d 593 (1967), *modified*, 90 F.C.C. 2d 1394 (1982), *vacated sub nom. ITT World Communications, Inc. v. FCC*, 725 F.2d 732 (1984). The Commission permitted COMSAT to provide leased channel services directly to end users only "in unique or exceptional circumstances," such as a carrier's refusal to provide the requested service. *Authorized Users I*, 4 F.C.C. 2d at 435. Similarly, agencies of the federal government were allowed to obtain direct service from COMSAT "whenever such service is required to meet unique governmental needs or is otherwise required in the national interest." *Id.* at 436.

²⁰ *Proposed Modification of the Commission's Authorized User Policy*, 100 F.C.C. 2d 177, 180 (1985) ("Authorized Users III"), *aff'd*, *Western Union International v. FCC*, 804 F.2d 1280 (1986).

²¹ *Authorized Users I*, 4 F.C.C. 2d at 434.

²² *ITT World Communications, Inc.*, 6 F.C.C. 2d 511 (1967).



In sum, during the 1960s and 1970s, telecommunications policymakers extensively regulated virtually all aspects of the international telecommunications market.²³ Intermodal competition was limited by (1) a government-imposed traffic allocation formula; (2) ownership interests in both major international technologies by the same entities; (3) restrictions on competition for end-user business; and (4) mandated rate averaging which blurred the cost characteristics of each technology. These regulations were both necessary and instrumental to the development of the global satellite system.

By helping the INTELSAT system to settle into the market and flourish, these government protections succeeded much as U.S. policymakers had hoped. INTELSAT became an organization consisting of more than 130 member nations serving all portions of the globe. Many countries, including the less developed ones, began to rely on satellites to bring their citizens high quality telecommunications services and to link their governments and businesses with the other nations of the world.

The effect of the regulations and policies described above was still evident when the FCC first analyzed the state of competition in the international telecommunication market in its *International Competitive Carrier* rulemaking. As a result, the agency was able to conclude that COMSAT was “dominant” in the provision of space segment and television services — for, indeed, that was the government’s original goal.²⁴ But in the 1980s, the Commission began to reverse its protective policies and, with such action, swept away the regulatory underpinnings suppressing robust competition.

²³ In addition to trying to balance the interests of cable and satellite technology, the FCC also limited competition among the international record carriers (“IRCs”). The IRCs generally were limited to “record” or data services, while AT&T basically was confined to voice services. Except in rare circumstances, AT&T and the IRCs did not compete. Moreover, international record carriers were precluded from domestic operations, and the domestic record carrier, Western Union, was barred from international service. *See, e.g.*, former 47 U.S.C. § 222 (repealed by the Record Carrier Competition Act of 1981, Pub. L. 97-130, § 2, 95 Stat. 1687, now codified as 47 U.S.C. § 222); *American Tel. & Tel. Co.*, 37 F.C.C. 1151 (1964) (TAT-4 decision).

²⁴ The FCC also found COMSAT to be dominant in the provision of multi-purpose earth station service. *International Competitive Carrier Order*, 102 F.C.C. 2d at 839.

B. In The Modern Era, The Public Policy Focus Shifted To Promoting Competition

After the INTELSAT satellite system had become a commercial reality, U.S. government policy evolved — much as it had in domestic telecommunications — toward using competitive market forces as a way of promoting the public interest. Specifically, since the early 1980s, the FCC has worked to heighten competition in the trans-oceanic facilities market by fostering (1) intermodal competition between submarine cables and satellites, and (2) intramodal competition between competing providers of satellite services.

1. Policies Were Adopted To Foster Intermodal Competition Between Cables And Satellites

By the mid-1980s, government policymakers recognized that INTELSAT was a viable entity, and they saw that cable technology had developed to the point that its costs were comparable to that of satellites. The FCC accordingly embarked upon a number of actions designed to promote direct competition between international satellites and cables. New policies were issued that ended carrier involvement in COMSAT and eliminated the mandated use of INTELSAT.

(a) International Carrier Ownership In COMSAT And Related Facilities Ended

As an initial step in promoting intermodal competition, the FCC began to separate the ownership of the competing media. By the 1980s, all of the major common carriers had divested themselves of their ownership interests in COMSAT, either voluntarily or as a result of Commission action.²⁵

To further facilitate its objective, the FCC in 1984 took a number of steps to make the earth station environment more competitive. First, while considering a comprehensive

²⁵ See *Establishment of Domestic Communications-Satellite Facilities by Non-Governmental Entities*, 38 F.C.C. 2d 665, 679-80 (1972). The Commission required AT&T to divest its COMSAT stock before being permitted to use its domestic satellite facilities for certain competitive services.

structural change in earth station ownership, the Commission decided to license small earth stations to individual common carriers for the limited purpose of offering "international business service" ("IBS").²⁶ The FCC determined that granting this limited ownership right would bolster competition while posing no threat to the economic viability of the INTELSAT system.²⁷

The Commission built on that decision eight months later in concluding that "a more open and flexible earth station ownership policy will best serve the public interest by increasing efficiencies and reducing costs to users" and would not adversely affect INTELSAT.²⁸ The FCC therefore jettisoned the old rules that required joint carrier-COMSAT ownership of the earth stations — effectively eliminating ESOC and thus also COMSAT's once-pivotal role in operating the ground links necessary for international satellite communications.²⁹ The practical effect of this "new competitive earth station ownership policy"³⁰ was that carriers could own and operate earth stations independently of COMSAT's management or ownership interest. More recently, the Commission has introduced further user flexibility in the satellite market by allowing non-common carriers to own earth stations interconnected with INTELSAT facilities.³¹

(b) Loading Guidelines And The Composite Rate Policy Were Eliminated

Because consumer choice is the major prerequisite to a competitive environment, the FCC began to grant carriers greater flexibility in choosing their trans-oceanic transmis-

²⁶ IBS service is a satellite-based private line offering typically used by large corporations to meet intra-corporate communications needs.

²⁷ See, e.g., *International Relay Inc.*, 97 F.C.C. 2d 327 (1984).

²⁸ *Modification of Policy on Ownership and Operation of U.S. Earth Stations*, 100 F.C.C. 2d 250, 251 (1984).

²⁹ *Id.* at 264.

³⁰ *Id.* at 276.

³¹ *Licensing Private Transmit/Receive Earth Stations*, 3 FCC Rcd 1585 (1988), *aff'd*, *TRT Telecommunications Corp. v. FCC*, 876 F.2d 134 (1989).

sion medium. In 1988, the Commission reversed its decision to require a minimum use of INTELSAT. It determined that agreements between COMSAT and its carrier customers gave INTELSAT a sufficient base of U.S. traffic to allow the agency to safely conclude that "circuit distribution guidelines that guarantee INTELSAT minimum levels of traffic have served their purpose and are no longer needed."³²

The FCC also recognized that consumer choice was enhanced and made more meaningful by technologically specific rates. Therefore, the Commission made its composite rate policy discretionary at approximately the same time that it began to back away from the loading guidelines.³³ The FCC decided that, while the cost differential between satellites and undersea cables was difficult to determine as a general matter, satellites were well enough established to allow the agency to foster competition in this manner. Accordingly, it encouraged carriers to file separate satellite and cable rates. The Commission also signaled its intention to rely more and more on competition in the future to determine the relative use of the two media.

**(c) COMSAT Was Allowed Greater
Flexibility To Serve End Users**

Finally, to promote even greater competition, the FCC decided to permit COMSAT to compete directly for end users who would be offered the same terms and conditions for INTELSAT access as those afforded to carriers.³⁴ The Commission reasoned that users, by arranging for their own domestic and foreign connections and acquiring space segment services from COMSAT, would benefit from the ability to compare the costs of satellite-based arrangements with rates offered by carriers for equivalent services.



³² *Policy for Distribution of United States International Carrier Circuits Among Available Facilities During the Post-1988 Period*, 3 FCC Rcd 2156, 2160 (1988) (reviewing history of loading policy) ("Circuit Distribution Order").

³³ *Authorized User III*, 100 F.C.C. 2d 177.

³⁴ *Id.* at 186.

In sum, the FCC in the 1980s fundamentally altered the relationship between international satellites and undersea cables by eliminating the international carriers' ownership interests in COMSAT, lifting the scheme that supported joint ownership of earth stations, removing the loading guidelines, and erasing the mandatory composite rate policies. These developments set the stage for direct and robust competition between the two technologies.

2. "Separate" International Satellite Systems Were Authorized To Create Intramodal Competition

While working to spur intermodal competition, U.S. policymakers also took action to promote intramodal competition. After several private companies applied for FCC authorization to construct, launch, and operate independent commercial global satellite systems, President Reagan officially determined that such alternative or "separate satellite systems" were "required in the [United States'] national interest" within the meaning of the Satellite Act.³⁵ However, the Reagan Administration also declared that two conditions were necessary to protect the economic viability of INTELSAT, the majority of whose business involves IMTS traffic.³⁶ First, each independent system was restricted to providing the sale or lease of satellite transponder capacity for communications not interconnected with the public switched telephone network ("PSTN"). Second, all proposed systems would need to obtain authorization from one or more foreign authorities and enter into INTELSAT consultation procedures.

The FCC, relying on the Executive Branch determination, acted quickly to approve the applications of the separate satellite systems, subject to the PSTN restriction and the INTELSAT consultation requirement.³⁷ Separate satellite systems were therefore free

³⁵ See Presidential Determination No. 85-2 (1984). INTELSAT's governing agreements provide for the existence of satellite systems owned and operated separately from the multi-national consortium if such systems do not cause technical interference or significant economic harm to the INTELSAT system. INTELSAT Agreement, Art. XIV(d), 23 U.S.T. at 3854.

³⁶ The largest segment of the total international communications market remains IMTS and private line services, which accounted for about 80% of all traffic to and from the United States in 1993. See Study at 44-45.

³⁷ *Establishment of Satellite Systems Providing International Communications*, 101 F.C.C.

from the outset to offer international private line circuits and also international video (television) services.³⁸

The PSTN condition, however, did not last long. It was first modified in 1990, when the Bush Administration determined that separate satellite operators could interconnect up to 100 64-kbps equivalent circuits per system to the PSTN.³⁹ The following year, in response to a petition from a provider of separate satellite service, the Administration announced that its goal was the complete elimination of the PSTN restriction by 1997. The FCC adopted those recommendations in 1992.⁴⁰

Finally, in January of this year, the Commission raised the limit on permissible switched services significantly to 1,250 64-kbps equivalent circuits *per satellite*.⁴¹ With digital circuit multiplication technology, the 1,250 64-kbps circuits allowed per satellite can actually be transformed into as many as 5,000 voice circuits. Consequently, as a practical matter, the PSTN prohibition no longer exists; the “elimination” of the restriction proposed for 1997 will be a formality at most.⁴² Separate satellite systems — which already were competing energetically with COMSAT for video customers and for certain private line customers — can now vigorously compete in all markets.

2d 1046, 1178-79 (1985), *recon.*, 61 Rad. Reg. 2d (P&F) 649 (1986).

³⁸ Before the era of undersea fiber optics, cables were unsuitable for transmitting broadcast signals because such transmission requires relatively significant bandwidth. Today, that situation has changed. Fiber optic cables carry significant amounts of video traffic in the domestic point-to-point video market, and are poised to do so internationally as well. See Study at 27-29 & n.42, 31-32 & nn.58, 61.

³⁹ See *Permissible Services of U.S. Licensed International Communications Satellite Systems Separate from the International Telecommunications Satellite Organization*, 7 FCC Rcd 2313, 2313 (1992) (citing Letter from Lawrence S. Eagleburger, Deputy Secretary of State, and Thomas J. Murrin, Deputy Secretary of Commerce, to Alfred C. Sikes, Chairman, FCC (Dec. 14, 1990)).

⁴⁰ See *id.* at 2314 (adopting 1997 “sunset” for PSTN restriction).

⁴¹ *Permissible Services of U.S.-Licensed International Communications Satellite Systems Separate from the International Telecommunications Satellite Organization*, 9 FCC Rcd 347, 347 (1994).

⁴² Indeed, at the next INTELSAT Assembly of Parties, scheduled for October 1994, the Article XIV(d) Working Party will propose that the PSTN threshold be raised to 8,000 64-kbps equivalent circuits per satellite.



As shown above, the government protections that once safeguarded INTELSAT and COMSAT from various competitive pressures have been eliminated in the last ten years. Today, therefore, COMSAT confronts essentially unrestricted intermodal and intramodal competition in the provision of trans-oceanic telecommunications facilities.

III. TODAY'S MARKET FOR TRANS-OCEANIC TELECOMMUNICATIONS FACILITIES IS SUBSTANTIALLY COMPETITIVE

In its 1991 review of the domestic telecommunications marketplace, the Commission set forth a framework by which it could evaluate the competitiveness of telecommunications markets.⁴³ In that proceeding, the FCC concluded that an interplay of the following factors would form the basis of such an analysis:

- 1) A high level of "supply elasticity" in the market, demonstrated by either:
 - (a) the "supply capacity of existing competitors,"⁴⁴ or
 - (b) low entry barriers.⁴⁵
- 2) A high level of "demand elasticity" in the market, as proven by customers who were:
 - (a) "sophisticated ... [and] aware of the multitude of choices available to them,"⁴⁶
 - (b) willing to switch suppliers "in order to obtain price savings and desired features," as a declining market share would prove,⁴⁷ and

⁴³ *Competition in the Interstate Interexchange Marketplace*, 6 FCC Rcd 5880, 5882 (1991) ("*Interexchange Competition Order*"), modified, 7 FCC Rcd 2677 (1992).

⁴⁴ The Commission characterized this "supply capacity" as the ability of a company's rivals to immediately provide or quickly acquire enough additional capacity to constrain that company's market behavior. *Interexchange Competition Order*, 6 FCC Rcd at 5888.

⁴⁵ The FCC measured "low entry barriers" by analyzing the ease with which new competitors could enter the market and add to existing capacity. *Id.*

⁴⁶ *Id.*

⁴⁷ See *id.* at 5887, 5889 (50% market share "is not incompatible with a highly competitive market").

- (c) able to take advantage of the new prices and services offered in response to competition.⁴⁸
- 3) A lack of cost advantages over competitors.⁴⁹
- 4) An entity's relative size and access to resources, which are not "so great as to preclude the effective functioning of a competitive market."⁵⁰

In 1985, when the Commission first reviewed COMSAT's competitive status, the agency recognized that the international telecommunications marketplace was rapidly evolving.⁵¹ It explicitly noted that its treatment of COMSAT as the dominant provider of space segment and video services would need to be revisited in the near term.⁵² Two years ago, the FCC acknowledged that competition to COMSAT has advanced rapidly in international telecommunications. Indeed, it dismissed claims that INTELSAT's "monopoly" PSTN services could form the basis for cross-subsidization of non-PSTN services because of the competitiveness that existed among separate satellite systems, fiber optic cables, and INTELSAT.⁵³ When applied to COMSAT's current situation, the FCC's *Interexchange Competition* analysis demonstrates beyond reasonable question that competition in trans-oceanic facilities today is sufficiently robust to prevent COMSAT from "discriminat[ing] unreasonably or otherwise charg[ing] unlawful rates."⁵⁴

⁴⁸ See *id.* at 5889.

⁴⁹ *Id.* at 5890-91.

⁵⁰ *Id.* at 5891-92 (finding that inherent advantages of an incumbent firm do not necessarily bar the conclusion that a market is competitive).

⁵¹ *International Competitive Carrier Order*, 102 F.C.C. 2d at 838. Moreover, the Commission acknowledged that satellite capacity and cable capacity already were essentially fungible for most uses and routes. *Id.*

The FCC also "recognize[d] ... that the market for the provision of television service appears to be on the verge of expansion," *id.* at 839, primarily because of the lifting of certain earth station restrictions and the introduction of fiber optic cable, which can accommodate television signals. The agency apparently did not envision that separate satellite systems would soon mount direct competition in the television market.

⁵² *Id.* at 838.

⁵³ *Communications Satellite Corporation*, 7 FCC Rcd 3430, 3433 (1992).

⁵⁴ *Interexchange Competition Order*, 6 FCC Rcd at 5882.

First, the amount of international transmission capacity currently available is several times larger than that necessary to prevent an exercise of market power. Furthermore, this idle capacity is being augmented not only by an increasing number of new cables and satellites but also through the use of circuit multiplication and compression techniques that expand the effective capacity of existing facilities.

Second, customers for trans-oceanic services are the most sophisticated buyers possible — in fact, most are not just buyers but purveyors of international telecommunications services themselves. These customers are willing and able to switch facilities in order to obtain the most attractive services and prices.

Third, neither satellite nor cable technology has a significant cost advantage anymore. Yet to overcome the incentive that “retail” carriers have to use their own cable facilities, satellite service must offer greater value to customers.

Finally, COMSAT lacks any resource advantage over its rivals. COMSAT is dwarfed in size by its competitors, making it impossible for COMSAT to command the advantages that adhere to a market giant with market power.

A. The Growth Of Traffic And Capacity, As Well As The Entry Of New Vendors, Demonstrates The High Level Of Supply Elasticity In The Market

In the past, the Commission has concluded that the existence of high demand and supply elasticities are the most significant indicia of market competitiveness.⁵⁵ In analyzing whether a high level of supply elasticity exists, the FCC has looked at: (1) whether competitors have sufficient capacity to accommodate additional customers' capacity, and (2) whether the market's barriers to entry are low. The FCC has determined that the existence of either circumstance is sufficient to support a finding of market competitiveness, because both operate to foreclose a firm's market power.⁵⁶ In COMSAT's case, both sit-

⁵⁵ See *id.* at 5887.

⁵⁶ *Id.* at 5888.

uations are present.

1. Competitors Currently Have More Than Enough Idle Capacity To Carry All Of COMSAT's Traffic

The current level of unused trans-oceanic facilities capacity defies hyperbolization. Unlike the industry at issue in *Interexchange Competition Order*, where discussion focused on how much and how soon "raw" capacity could easily become available to AT&T's competitors, COMSAT's competitors have capacity that can be activated within moments of wooing away a COMSAT customer. In addition, technological advancements — such as digital transmission and compression techniques — have increased the "real" capacity of existing facilities, so that unused capacity has burgeoned even without considering the addition of new facilities.

(a) Sufficient Unused Cable Capacity Exists To Accommodate COMSAT's Current Traffic To Regions Experiencing High Demand

The Study segments the international facilities marketplace into three geographic market segments that correspond to the routes of underseas cable systems.⁵⁷ Service to Europe and adjacent nations currently can be routed over as many as five existing fiber optic cables, service to East Asian nations can be sent over four trans-Pacific fiber optic cables, and service to Caribbean countries can be provided via two high-capacity fiber optic cables.⁵⁸ Significantly, the current amount of idle capacity on these trans-oceanic cable

⁵⁷ Study at 32-35. These regions account for approximately 94 percent of total utilized capacity for IMTS and private line service to and from the United States. *Id.* at 50.

⁵⁸ See *id.* at 22. In the *facilities-based* trans-oceanic telecommunications arena, geographic markets are not as narrow as the Commission drew them in the *International Competitive Carrier Order*. There, the Commission concluded that for purposes of analysis "every country constitutes a separate geographic market," primarily because in order to provide service, carriers must obtain an operating agreement with the proper authorities. 102 F.C.C. 2d at 828.

While this may be correct when analyzing the "retail" market, it is not as relevant in the context of the "wholesale" facilities market. In that market, obtaining such operating agreements is not the role of the wholesale carrier such as COMSAT. It is COMSAT's customers — the retail carriers — who secure the bilateral agreements. COMSAT's only function is to provide "transportation" on trans-oceanic telecommunications routes. Thus, it is the manner in which this technology functions and has been deployed, and not national boundaries, which is most relevant.

systems could easily accommodate *all* of COMSAT's service to those regions.⁵⁹

As the Study notes, cable fill ratios have dropped since 1990, when three new trans-Atlantic cable systems and three new trans-Pacific cable systems came on line.⁶⁰ By the third quarter of 1993, for instance, AT&T's idle capacity on its trans-Atlantic cables constituted more than 70% of the total trans-Atlantic cable capacity. For all trans-oceanic cables, overall capacity utilization is less than 35%.

Business factors account, in part, for this tremendous amount of unused cable capacity. Carriers have a strong incentive to install additional capacity because overall costs primarily are a function of the distance between connecting points; the costs of adding additional fiber strands to the planned facility are, in comparison, quite low.

In addition, carriers are motivated to install additional optical fiber to increase routing diversity and thereby boost the availability and reliability of their cable facilities. Although COMSAT has enjoyed significant business as the supplier of redundant capacity to be tapped in cases of cable outages, this restoration business is expected to decline in the future. The Commission itself recently noted "a trend among users to have digital fiber optic submarine cables restored with similar facilities in the case of an outage."⁶¹ Furthermore, technological advancements promise to cut both time and costs for cable restoration which, in turn, will further lessen cable's reliance on satellites.⁶²

**(b) New Satellite Capacity Could
Accommodate Most Of COMSAT's
Voice Services To Other Areas**

Notwithstanding the facts above, there are some areas that are not easily accessible

⁵⁹ For details, *see* Study at 79-92. Current levels of idle capacity in both the Atlantic and Pacific regions are more than sufficient to handle COMSAT's traffic in those areas. Idle capacity in the Caribbean today can accommodate about 90% of COMSAT's voice services, but three cable facilities due to begin operating later this year will substantially increase idle capacity there.

⁶⁰ For details, *see id.* at 85; *see also id.* at 87, Fig. 21.

⁶¹ *Communications Satellite Corporation*, 7 FCC Rcd at 3433.

⁶² To be sure, the latest fiber optic cables are designed to be "self-healing." *See American Tel. & Tel. Co.*, 8 FCC Rcd 4810, 4813 (Com. Car. Bur. 1993) (authorizing TAT-12/TAT-13).